In re Patent Application of
MICHAEL BLABER ET AL.
Serial No. 10/037,633
Filed: **January 3, 2002**

In the Claims:

Please substitute the following amended Claims as set forth below. A full listing of the claims follows, showing amendments as required. The claim amendments include no new matter.

1.(currently amended) An isolated nucleic acid comprising a sequence which is a degenerate variant of the nucleotide sequence of SEQ ID NO:1 having a GC content from about 55% to about 67%.

2.(currently amended) The nucleic acid sequence of Claim 1, wherein GC content is effective for enhancing heterologous expression of said nucleic acid sequence in enteric bacteria.

3.(currently amended) The nucleic acid sequence of Claim 1, ~~further~~ comprising a plurality of codons having a substitute base at a wobble position, said plurality of codons selected from the group of codons encoding alanine, arginine, glutamate, glycine, and valine.

4.(currently amended) The nucleic acid sequence of Claim 1, wherein wobble position GC content is effective for enhancing efficiency of a polymerase-based methodology with said nucleic acid sequence.

5.(currently amended) The nucleic acid sequence of Claim 4, wherein said polymerase-based methodology is selected from PCR, mutagenesis, and sequencing.

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6.(currently amended) The nucleic acid sequence of Claim 1, ~~further comprising an expression vector operably linked to an expression control sequence~~ wherein said sequence is operably linked to an expression control sequence in an expression vector.

7.(currently amended) ~~The nucleic acid of Claim 1, wherein an~~ An isolated cell ~~comprises said nucleic acid and~~ comprising an expression vector containing the nucleic acid sequence of claim 1 ~~therefor~~ operably linked to an expression control sequence.

8.(currently amended) ~~The nucleic acid of Claim 1, wherein an~~ An isolated cell ~~comprises said~~ the nucleic acid sequence of claim 1 operably linked to an expression control sequence.

9.(currently amended) ~~The nucleic acid of Claim 1, further comprising an~~ An expression vector ~~wherein said~~ containing the nucleic acid ~~is~~ sequence of claim 1 operably linked to an expression control sequence~~, and wherein an isolated cell or a progeny of said cell is transfected with said vector~~.

10.(currently amended) An isolated nucleic acid ~~comprising a~~ sequence having a GC content of from about 55% to about 67% and encoding a polypeptide having the amino acid sequence of SEQ ID NO:5.

11.(currently amended) The nucleic acid sequence of Claim 10, ~~further~~ comprising a plurality of codons having a substitute base at a wobble position, said plurality of codons selected from the group of codons encoding alanine, arginine, glutamate, glycine, and valine.

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12.(currently amended) The nucleic acid sequence of Claim 10, wherein wobble position GC content is effective for enhancing efficiency of a polymerase-based methodology with said nucleic acid sequence.

13.(currently amended) The nucleic acid sequence of Claim 12, wherein said polymerase-based methodology is selected from PCR, mutagenesis, and sequencing.

14.(currently amended) The nucleic acid sequence of Claim 10, ~~further comprising an expression vector operably linked to an expression control sequence~~ wherein said sequence is operably linked to an expression control sequence in an expression vector.

15.(currently amended) ~~The nucleic acid of Claim 10, wherein an~~ An isolated cell ~~comprises said nucleic acid and~~ comprising an expression vector containing the nucleic acid sequence of claim 10 ~~therefor~~ operably linked to an expression control sequence.

16.(currently amended) ~~The nucleic acid of Claim 1, wherein an~~ An isolated cell ~~comprises said~~ the nucleic acid sequence of claim 1 operably linked to an expression control sequence.

17.(currently amended) ~~The nucleic acid of Claim 1, further comprising an~~ An expression vector ~~wherein said~~ containing the nucleic acid ~~is~~ sequence of claim 1 operably linked to an expression control sequence~~, and wherein an isolated cell or a progeny of said cell is transfected with said~~ vector.

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18.(currently amended) The nucleic acid sequence of Claim 10, wherein said GC content is effective for producing an average codon bias in enteric bacteria of from greater than about 44% up to about 66% so as to thereby enhance heterologous expression thereof.

19-37. (Withdrawn)

38-39. (Cancelled)

40.(currently amended) A method of making a polypeptide, comprising culturing an isolated cell ~~transfected with a synthetic nucleic acid~~ comprising a degenerate variant of the nucleotide sequence of SEQ ID NO:1 having a GC content of from about 55% to about 67%, ~~and an expression vector therefor operably linked to an expression control sequence,~~ wherein culturing is effected under conditions permitting expression of said nucleic acid so as to produce a polypeptide encoded thereby.

41.(currently amended) The method of Claim 40, further comprising purifying the polypeptide from the cell or from the medium.

42.(currently amended) A method of making a polypeptide, the method comprising culturing an isolated cell transfected with an expression vector containing a synthetic nucleic acid comprising a sequence having a GC content of from about 55% to about 67% encoding a polypeptide having the amino acid sequence of SEQ ID NO:5, and ~~an expression vector therefor~~ operably linked to an expression control sequence, wherein culturing comprises conditions permitting expression to produce the polypeptide.

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43.(currently amended) The method of Claim 42, further comprising purifying the polypeptide from the cell or from the medium.

44-48. (Cancelled)

49-52. (Withdrawn)

53-58. (Cancelled)